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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/633,635	08/05/2003	Kiyomu Endo	OD02062US	6379
21254	7590	04/14/2005	EXAMINER	
MCGINN & GIBB, PLLC 8321 OLD COURTHOUSE ROAD SUITE 200 VIENNA, VA 22182-3817			GREENE, JASON M	
			ART UNIT	PAPER NUMBER
			1724	

DATE MAILED: 04/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

10/633,635

Applicant(s)

ENDO, KIYOMU

Examiner

Jason M. Greene

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-14 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-14 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 August 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

## Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date \_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_.

## **DETAILED ACTION**

### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

### ***Drawings***

2. Figures 10 and 11 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

### ***Claims***

3. With regard to claims 5 and 6, the Examiner suggests that Applicants rewrite the phrase "said blade wheel" in line 5 to read as "a blade wheel of the blower" to provide improved antecedent basis.

4. Claims 12 and 13 recite the phrases "said partitioning walls" and "said wheel plates" in lines 2 and 4, respectively. However, claim 11, from which claims 12 and 13 depend, recites the air cleaner having "a plurality of partitioning plates or blade plates" in line 3. Accordingly, the Examiner suggests Applicants rewrite the phrase "said partitioning walls" in claim 12 as "said partitioning plates" and the phrase "said wheel plates" in claim 13 as "said blade plates" to provide improved antecedent basis.

***Claim Rejections - 35 USC § 102***

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, 4 and 7-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Armbruster.

With regard to claim 1, Armbruster discloses a table-top type air cleaner (10) comprising a front opening portion (18) to suck air containing smoke of a cigarette, said front opening portion being placed at a front of the air cleaner, a blower (48) to forcedly feed said air having been sucked from said front opening portion in a centrifugal direction, a pair of right and left peripheral openings (54,56) to emit air fed forcedly from said blower ahead of the air cleaner, said pair of peripheral opening portions being placed in a fringe portion of the right and left at said front of the air cleaner, and a fibrous dust collecting filter (42) being placed between the front opening (18) portion and the blower to remove the smoke of the cigarette in Figs. 1-4 and col. 3, line 12 to col. 4, line 19. While Armbruster teaches the air cleaner being located on a floor, the Armbruster air cleaner is seen as being a table-top type air cleaner since it is capable of being located on a table top.

With regard to claim 2, Armbruster discloses a deodorizing filter (activated charcoal filter 44) being placed between the front opening portion (18) and the blower (48) in Fig. 2 and col. 3, lines 36-46.

With regard to claim 4, Armbruster discloses between the front opening portion (18) and the blower (48) there being placed a panel shaped dust collecting filter (44) which is operated in a form of a panel being folded up in a corrugated form in Fig. 2 and col. 3, lines 36-46.

With regard to claims 7-9, Armbruster discloses the air fed forcedly from the blower being emitted toward an obliquely-formed direction of the air cleaner from said pair of right and left peripheral opening portions (54,56) in a manner that said air is separated left and right, wherein each of the peripheral opening portions making up said pair of right and left peripheral opening portions is placed at a corner between a front and a side of the air cleaner (see Fig. 3), wherein each of the peripheral opening portions is formed so as to be approximately longitudinally long along a fringe of a front of the air cleaner in Figs. 1-4.

7. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Orel.

With regard to claim 1, Orel discloses a table-top type air cleaner (11) comprising a front opening portion (33) to suck air containing smoke of a cigarette, said front opening portion being placed at a front of the air cleaner, a blower (35) to forcedly feed said air having been sucked from said front opening portion in a centrifugal direction, a pair of right and left peripheral openings (51) to emit air fed forcedly from said blower ahead of the air cleaner, said pair of peripheral opening portions being placed in a fringe portion of the right and left at said front of the air cleaner, and a fibrous or porous dust collecting filter (filters 99,83 or 87 and porous members 107 and 109) being placed between the front opening (33) portion and the blower and between said blower and

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each of the peripheral opening portions to remove the smoke of the cigarette in Figs. 1-6 and col. 3, line 36 to col. 6, line 59.

With regard to claim 2, Orel discloses deodorizing filters (71 and the activated charcoal 89 in filter 103) being placed between the front opening portion (33) and the blower (35) and between the blower and each of the peripheral opening portions (51) making up said pair of left and right peripheral opening portions in Figs. 1-6 and col. 5, line 39 to col. 6, line 59.

With regard to claim 3, Orel discloses the blower (35) being a centrifugal-type blower having a blade wheel (blades 39 and hub 40) in which a plurality of blades (39) are arranged in a ring-like form and being mounted in a manner that a central vertical axis of the blade wheel approximately conforms to (is parallel to) a vertical central axis of said front opening portion, in which said blower, while being operated, captures air from a direction of said central axis of said blade wheel, provides the captured air with turn around flows, and forcedly feeds, by using the generated centrifugal force, air that turns around, from clearances among the blades to a direction of a portion surrounding the blade wheel in Figs. 1, 2 and 4 and col. 4, lines 39-49.

With regard to claims 5 and 6, Orel discloses a ring-shaped dust collecting (porous members 107 and 109) and deodorizing (activated charcoal 89) filter (103) being placed between the blower and each of the peripheral opening portions making

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up said pair of right and left peripheral opening portions and on a side of said portions surrounding a blade wheel (39) of the blower in such a manner that a central axis of the dust collecting filter conforms to said central axis of the blade wheel in Figs. 2, 5 and 6 and col. 6, lines 40-59.

With regard to claims 7 and 8, Orel discloses the air fed forcedly from the blower being emitted toward an obliquely-formed direction of the air cleaner from said pair of right and left peripheral opening portions (51) in a manner that said air is separated left and right, wherein each of the peripheral opening portions making up said pair of right and left peripheral opening portions is placed at a corner between a front and a side of the air cleaner in Fig. 1.

### ***Claim Rejections - 35 USC § 103***

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Armbruster or Orel.



Armbruster and Orel are silent as to the dimensions of the air cleaners including the pair of right and left peripheral opening portions being arranged 25 cm or more and within 40 cm apart from each other in a horizontal direction.

However, it would have been obvious to one of ordinary skill in the art at the time the invention was made to design the air cleaner having overall dimensions such that the pair of right and left peripheral opening portions were arranged between 25 and 40 cm apart to provide an air cleaner capable of handling a desired volume of air, as is well known in the art. Specifically, one of ordinary skill in the art at the time the invention was made would have recognized that the Armbruster and Orel air cleaners could be scaled depending on the volume of air required to be filtered. Therefore, since the spacing of the peripheral opening portions is dependent on the overall size of the air cleaner, an air cleaner having the claimed spacing between the peripheral opening portions would have been obvious to one having ordinary skill in the art.

Furthermore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to change the size (and therefore the spacing of the right and left peripheral opening portions) of the Armbruster and Orel air cleaners in that such is merely a choice of design. See *In re Rose*, 105 USPQ 237 and *In re Reven*, 156 USPQ 679.

10. Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Armbruster or Orel in view of Tsunoda et al.

Armbruster and Orel do not disclose each of the peripheral opening portions having a plurality of partitioning plates or blade plates which give a directional property to the air being emitted, wherein the partitioning plates or blade plates are attached so as to be rotatable so that a direction of the air being emitted is changed, wherein an air-flow direction control circuit is mounted which is used to electrically control rotations of the partitioning plates or blade plates.

Tsunoda et al. discloses a similar air cleaner (air conditioner 1) wherein the air outlet portion (3) has a plurality of partitioning plates (louvers 9) which give a directional property to the air being emitted, wherein the partitioning plates are attached (to shafts 8) so as to be rotatable so that a direction of the air being emitted is changed, wherein an air-flow direction control circuit (31-34) is mounted which is used to electrically control rotations of the partitioning plates in Figs. 1-4 and col. 1, line 5 to col. 3, line 15.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the electrically controlled partitioning plates of Tsunoda et al. into the air cleaners of Armbruster or Orel et al. to allow the direction of the air emitted from the air cleaner to be controlled from a remote location, as suggested by Tsunoda et al. in col. 1, line 5 to col. 2, line 51.

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Armbruster or Orel in view of Knudson.

Armbruster and Orel do not disclose the air cleaner comprising an electrically-controlled dust collecting unit which is used to electrostatically collect dust by corona charging fine particles floating in the air.

Knudson discloses a similar air cleaner (10) comprising an electrically-controlled dust collecting unit (electrostatic precipitator 54) which is used to electrostatically collect dust by corona charging fine particles floating in the air in Figs. 2 and 3 and col. 2, line 5 to col. 3, line 41.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to incorporate the electrically controlled dust collection unit of Knudson into the air cleaners of Armbruster or Orel to remove extremely small particles that are too small for mechanical filtering, as suggested by Knudson in col. 1, lines 2-10.

### ***Conclusion***

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The Cardarelli, Pillion et al., Kuo, Wu et al., Gilbert, Jr. et al., Kang et al., Chang et al., Glucksman, and Tateishi references disclose similar air cleaners

13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason M. Greene whose telephone number is (571)

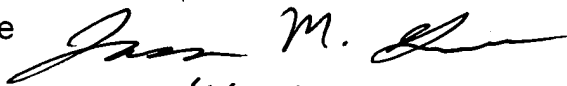
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272-1157. The examiner can normally be reached on Monday - Friday (9:00 AM to 5:30 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Duane Smith can be reached on (571) 272-1166. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Jason M. Greene  
Examiner  
Art Unit 1724

  
4/12/05

jmg  
April 12, 2005